

67,200-1142
2003-0145

ABSTRACT

0032 A method for plasma treating an exposed copper surface and dielectric insulating layer in a semiconductor device manufacturing process including providing a semiconductor wafer having a process surface including an exposed copper portion and an exposed dielectric insulating layer portion; plasma treating in a first plasma treatment process the process surface with a first plasma including ammonia (NH_3) and nitrogen (N_2) plasma to form a copper nitride layer overlying the exposed copper portion; and, plasma treating in a second plasma treatment process the process surface with a second plasma including oxygen (O_2).